



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,411	02/27/2004	Tatsuya Seshimo	Q80147	4530

23373 7590 03/23/2006

SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

UHLENHAKE, JASON S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

BJ

<b>Office Action Summary</b>	<b>Application No.</b> 10/787,411	<b>Applicant(s)</b> SESHIMO, TATSUYA	
	<b>Examiner</b> Jason Uhlenhake	<b>Art Unit</b> 2853	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date: ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>08/17/2004</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 10, 11, 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishikawa (U.S. Pub. 2003/0156153).

#### ***Ishikawa discloses:***

- ***regarding claim 10***, a head member having a nozzle and a liquid ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid ejecting unit based on ejecting data (Abstract, Paragraphs 0004, 0016)
- a capping member relatively movable between a position away from the head member and a position in contact with the head member (Abstract; Paragraphs 0008, 0016, 0049)
- a suction way communicated with an inside of the capping member (Paragraphs 0009, 0015, 0061)
- a reciprocating-mechanism type of positive displacement pump provided in the suction way (Paragraphs 0008, 0009, 0056, 0060)

- release mechanism that can release the inside of the capping member to an atmosphere when the capping member is in contact with the head member

(Paragraph 0009)

- **regarding claim 11**, release mechanism is a release valve provided in the capping member (Paragraph 0009)

- **regarding claim 12**, the reciprocating-mechanism type of positive displacement pump is a piston pump (Paragraph 0009)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 6, 7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (U.S. Pub. 2003/0156153) in view of Yamamoto et al (U.S. Pub. 2002/0015069).

#### ***Ishikawa discloses:***

- **regarding claim 1**, a head member having a nozzle and a liquid ejecting unit that ejects liquid in the nozzle; a main controlling part that drives the liquid ejecting unit based on ejecting data (Abstract, Paragraphs 0004, 0016)

Art Unit: 2853

- a capping member relatively movable between a position away from the head member and a position in contact with the head member (Abstract; Paragraphs 0008, 0016, 0049)

- a suction way communicated with an inside of the capping member (Paragraphs 0009, 0015, 0061)

- release mechanism that can release the inside of the capping member to an atmosphere when the capping member is in contact with the head member (Paragraph 0009)

- **regarding claim 2**, built-in slide rotator is a release valve provided in the capping member (Paragraph 0009)

***Ishikawa does not disclose expressly:***

- **regarding claim 1**, a built-in slide rotator type of positive displacement pump provided in the suction way

- **regarding claim 6**, the built-in slider-rotator type of positive displacement pump is a gear pump

- **regarding claim 7**, the built-in slider-rotator type of positive displacement pump is a roots pump

- **regarding claim 9**, the built-in slider-rotator type of positive displacement pump is a vane pump

***Yamamoto et al discloses:***

- **regarding claim 1**, a built-in slide rotator type of positive displacement pump provided in the suction way (Paragraph 0033), for the purpose of controlling the flow of ink
- **regarding claim 6**, positive displacement pump is a gear pump (Paragraph 0033), for the purpose of controlling the flow of ink
- **regarding claim 7**, positive displacement pump is a roots pump (Paragraph 0033), for the purpose of controlling the flow of ink
- **regarding claim 9**, positive displacement pump is a vane pump (Paragraph 0033), for the purpose of controlling the flow of ink

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a built-in slide rotator type of positive displacement pump provided in the suction way; the built-in slider-rotator type of positive displacement pump is a gear pump; the built-in slider-rotator type of positive displacement pump is a roots pump; the built-in slider-rotator type of positive displacement pump is a vane pump as taught by Yamamoto et al into the device of Ishikawa. The motivation would have been to control the flow of ink.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (U.S. Pub. 2003/0156153) as modified by Yamamoto et al (U.S. Pub. 2002/0015069) as applied to claim 1 above, and further in view of Soga (U.S. Pat. 5,570,116).

***Ishikawa as modified by Yamamoto et al discloses:***

- **regarding claim 3**, a built-in slide-rotator type of positive displacement pump (Yamamoto et al: Paragraph 0033)

***Ishikawa as modified by Yamamoto et al does not disclose expressly:***

- **regarding claim 3**, a pump frame connected to the suction way, and the release mechanism is a release valve provided in the pump frame

***Soga discloses:***

- **regarding claim 3**, a pump frame (cylinder: 31, Figure 2) connected to the suction way, and the release mechanism (55, Figure 2) is a release valve provided in the pump frame (Figure 2; Column 4, Lines 51 – 59; Column 5, Lines 31 – 40), for the purpose of recovering performance of an ink jet recording apparatus.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a pump frame connected to the suction way, and the release mechanism is a release valve provided in the pump frame as taught by Soga into the device of Ishikawa as modified by Yamamoto et al. The motivation for doing so would have been to recover performance of an ink jet recording apparatus.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (U.S. Pub. 2003/0156153) as modified by Yamamoto et al (U.S. Pub. 2002/0015069) as applied to claim 1 above, and further in view of Kishida et al (U.S. Pub. 20010021330)

***Ishikawa as modified by Yamamoto et al discloses all the claimed limitations above, except for the following:***

- **regarding claim 4**, the release mechanism is a snakelike capillary way provided in the capping member

***Kishida et al discloses:***

- **regarding claim 4**, the release mechanism is a snakelike capillary way (16) provided in the capping member (Figure 3; Paragraphs 0029, 0046), for the purpose of to have an air releasing mechanism to prevent ink from within the nozzles from being pushed back into the nozzles with the cap under positive pressure.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of the release mechanism is a snakelike capillary way provided in the capping member as taught by Kishida et al into the device of Ishikawa as modified by Yamamoto et al. The motivation for doing so would have been to have an air releasing mechanism to prevent ink from with the nozzles from being pushed back into the nozzles with the cap under positive pressure.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (U.S. Pub. 2003/0156153) as modified by Yamamoto et al (U.S. Pub. 2002/0015069) as applied to claim 1 above, and further in view of Takagi (U.S. Pat. 5,389,961)

***Ishikawa as modified by Yamamoto et al discloses:***

- **regarding claim 5**, a built-in slide-rotator type of positive displacement pump (Yamamoto et al: Paragraph 0033)

***Ishikawa as modified by Yamamoto et al does not disclose expressly:***



- **regarding claim 5**, a check valve is provided between the capping member and the pump

***Takagi discloses:***

- **regarding claim 5**, a check valve (35) is provided between the capping member (31) and the pump (23) (Figure 1; Column 4, Lines 55 – 62), for the purpose of providing a printing apparatus with a clog prevention mechanism.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a check valve is provided between the capping member and the pump as taught by Takagi into the device of Ishikawa as modified by Yamamoto et al. The motivation for doing so would have been to provide a printing apparatus with a clog prevention mechanism.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (U.S. Pub. 2003/0156153) as modified by Yamamoto et al (U.S. Pub. 2002/0015069) as applied to claim 1 above, and further in view of Ameyama et al (U.S. Pat. 6,707,480)

***Ishikawa as modified by Yamamoto et al discloses:***

- **regarding claim 8**, a built-in slide-rotator type of positive displacement pump (Yamamoto et al: Paragraph 0033)

***Ishikawa as modified by Yamamoto et al does not disclose expressly:***

- **regarding claim 8**, displacement pump is a quimby screw pump

***Ameyama et al discloses:***

- **regarding claim 8**, displacement pump is a quimby screw pump (606, Figure 20; Column 13, Lines 63 – 67; Column 14, Lines 1 – 4), for the purpose of controlling the flow of ink

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of displacement pump is a quimby screw pump as taught by Ameyama et al into the device of Ishikawa as modified by Yamamoto et al. The motivation for doing so would have been to control the flow of ink.

Claims 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (U.S. Pub. 2003/0156153) in view of Pawlowski, Jr et al (U.S. Pub. 2002/0149646)

***Ishikawa discloses:***

- **regarding claim 13 and claim 14**, a reciprocating-mechanism type of positive displacement pump (Paragraphs 0008, 0009, 0056, 0060)

***Ishikawa does not disclose expressly the following:***

- **regarding claim 13**, type of positive displacement pump is a bellows pump

- **regarding claim 14**, type of positive displacement pump is a diaphragm pump

***Pawlowski, Jr et al discloses:***

- **regarding claim 13**, type of positive displacement pump is a bellows pump (Paragraph 0215), for the purpose of controlling the flow of ink

Art Unit: 2853

- ***regarding claim 14***, type of positive displacement pump is a diaphragm pump (Paragraph 0215), for the purpose of controlling the flow of ink

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of type of positive displacement pump is a bellows pump; type of positive displacement pump is a diaphragm pump as taught by Pawlowski, Jr et al into the device of Ishikawa. The motivation for doing so would have been to control the flow of ink.

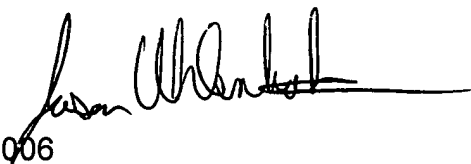
**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU  
March 9, 2006



 3/06  
K. FEGGINS  
PRIMARY EXAMINER